NMED May 22 2020 Comments on the Technical Memorandum for Temporary Consolidation Waste Pile Design, Haystack No. 1 Mine Site

ARCADIS Design & Consultancy for natural and built assets

Comment No.	Section	Page	Paragraph	Comments	Response to Comments
General Comments					
1				While the Agencies recognize the consolidation waste pile is intended to be temporary, it still needs to be constructed in accordance with standard reclamation practices as there is no timeline for the permanent remedy. The Agencies have documented best practices in the 2016 Joint Guidance for the Cleanup of Existing Uranium Mining Operations (Joint Guidance) included herein as an attachment.	The consolidation waste pile meets the 2016 Joint Guidance for the Cleanup of Existing Uranium Mining Operations (Joint Guidance).
Specific Comments					
1	Section 3	2	1	The Work Plan sets the cleanup level at 75,000 counts per minute (cpm). The Agencies recommend the use of picocuries per gram (pCi/g). If possible, please include this conversion in future documents.	For the time critical removal action, the Administrative Settlement Agreement and Order on Consent for Removal Action (AOC; CERCLA Docket No. 09-2017-02 and Docket No. 06-02-17) set 75,000 counts per minute as measured by a Ludlum 2241 with a 3x3 probe as the clean-up standard.
2	Section 2	4	1	The Tech Memo states a geotextile and 18-inches of growth medium will be used as a cover for the temporary waste consolidation pile. The Agencies recommend a minimum of 24-inches to be a preferred thickness, which allows for better overall vegetation with a deeper root establishment in addition to enhanced radiological protection. Additionally, the Agencies have observed success with a clay-rich layer of material placed on waste piles below a growth medium to further restrict radiological emanations.	Comments noted. For reclamation sites in the southwestern U.S. region, a minimum 18-inch thickness of growth medium is considered an acceptable standard for accommodating the rooting depth of native, drought-tolerant plant species; as the bulk of root mass is generally concentrated in the upper 18 inches. As this will be considered a temporary waste consolidation pile, the geotextile membrane will be covered with a minimum of 18-inches of growth medium. BNSF will reevaluate additional potential design criteria as part of the submittal for future permanent consolidation pile cover designs.
3	Section 3	4	4	The Tech Memo doesn't specify whether the seed mix will be applied via drill seeding or broadcast method. Based on the rate of seeding in Appendix B, 11.75 PLS/acre is only appropriate for drill seeding. If the seed mix will be applied via broadcast method the Agencies recommend that the seed mix rate be doubled.	Based on additional review, hydro seeding is the recommended seed application method. This method provides erosion control while vegetation is established. The standard and recommended seeding rate is 24-30 lbs/acre. This rate accommodates the potential that seed viability can decrease rapidly, and the actual percentage of viable seed may be half of what is applied. Broadcast seeding is not considered practical for the scale of this project.

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4	Section 3	4	4	The Tech Memo doesn't describe scarification or ripping prior to reseeding. The Agencies recommend that heavily traveled/compacted areas such as the 24-foot wide temporary access road around the consolidated waste pile and staging/laydown yard be ripped or otherwise scarified and then immediately reseeded while the soil is still friable.	Ripping and scarification is standard practice to prepare previously compacted soils for reseeding, including for this project the access roads and contractor staging/laydown area. This step will be performed prior to reseeding.
5	Section 3	3	3 through 5	The Tech Memo doesn't describe any necessary roads, waste removal, or reclamation actions at the Eastern Stockpile Area. Assuming this area is within this TCRA scope and the waste will be removed and placed in the waste consolidation pile, any and all disturbances within this area should be scarified and reseeded after waste removal.	Although the Eastern Stockpile is represented as an area subject to TCRA soils removal, the site has not been investigated to confirm the presence and/or extent of potential soils requiring action. To appropriately size the consolidation waste pile, a conservative estimate of TCRA waste volume was prepared for this site based on an excavation depth of 2 feet over a 2,500 square feet area. The waste removal and site restoration activities for the Eastern Stockpile Area, based on the results of gamma scanning, will be the same as for other TCRA removal areas.
6	Section 3	3	3 through 5	Assuming the Eastern Stockpile Area is within this TCRA scope, there should be a contingency plan for expansion of the temporary waste repository if the volume of waste in the Eastern Stockpile Area exceeds preliminary estimates. It is not stated what the upper limit of waste volume can be placed in the current proposed location, and if there is adequate capacity to include Eastern Stockpile Area material.	The consolidation waste pile design includes the estimated volume of excavated material from the Eastern Stockpile, as described in the response to comment 5, above. The consolidation waste pile is sited in a location within a broad shallow depression to accommodate additional material. Even a significant expansion to the consolidation pile footprint would yield minimal potential for discharge of waste material from erosion. The access road location around the perimeter of the waste pile can be field-adjusted as well, while retaining sediment discharge controls, as needed.
7	Section 4	5	8 through 9	In the Reporting Section of the Tech Memo, include the Agencies as recipients of the final submittal.	BNSF will copy the NNEPA and NMED on submittals to USEPA.